

REMARKS

Claims 1 has been amended in the present response. No new matter has been added by way of amendment. Applicants respectfully requests consideration of the claims in view of the following remarks.

I. Detailed Action**A. *Claim Rejections Withdrawn***

Applicant acknowledges the rejection of claims 1 and 17-19 under 35 U.S.C. § 112, second paragraph, as being rendered vague and indefinite by the use of the phrase "sequential periods of stress" is withdrawn in light of the amendment thereto. Applicant further acknowledges the rejection of claims 4-5 under 35 U.S.C. § 112, second paragraph, have been withdrawn.

In addition, the Applicant acknowledges the rejection of claims 1, 4-8 and 10-19 under 35 U.S.C. § 103(a) as being unpatentable over De Vuyst *et al.* has been withdrawn. Applicant also acknowledges the rejection of claims 1, 10-15 and 17-19 under 35 U.S.C. § 103(a) as being unpatentable over De Vuyst *et al.* in view of Nanji has been withdrawn. Finally, the Applicant acknowledges the rejection of claim 16 under 35 U.S.C. § 103(a) as being unpatentable over De Vuyst *et al.* in view of Perdigon *et al.* has been withdrawn.

II. *Claim Rejections – 35 U.S.C. § 112, Second Paragraph*

Claims 1, 4-8 and 10-19 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claims the subject matter which application regards as the invention. Specifically, the Examiner states the rejection is maintained as it is still unclear why "activation" is not considered a type of "modulation".

Applicant respectfully traverses this rejection. The specification teaches separate and distinct meanings of the terms activating and modulating. Although not acceding to the Examiner's rejections, in an effort to expedite prosecution Applicant has amended claim 1 to delete the language "activation", thus alleviating this rejection.

In light of the above amendment and remarks, Applicant asserts the claims are now in a condition for allowance. Applicant respectfully requests reconsideration and withdrawal of the rejections under 35 U.S.C. § 112, second paragraph.

III. Claim Rejections – 35 U.S.C. § 112, First Paragraph

Claims 1, 4-8 and 10-19 stand rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The Examiner states the amended claim 1 recites a limitation "said SRFs are not bactericidal proteins or peptides" which does not appear in the specification, or original claims as filed and is therefore new matter.

Applicant respectfully traverses this rejection. Applicant asserts that the recitation of "UV absorption at 254 nm" (specification, pages 12-13) is disclosed in the originally filed specification and those ordinarily skilled in the art would know that this peak absorption automatically excludes them from the possibility of being proteins or peptides.

The aromatic amino acids tyrosine, tryptophan, and phenylalanine, commonly found in proteins, absorb UV with peaks in the wavelength range of 260 – 280 nm. Those ordinarily skilled in the art would know that nucleotides absorb UV with peaks in the wavelength range of 250 – 260 nm. The absorption coefficients of nucleotides are 50 to 100 times higher than those of tyrosine, tryptophan, and phenylalanine. Therefore a peak appearing in the wavelength range of 250 - 260 nm clearly indicates the presence of nucleotides, not the aromatic amino acids that occur in proteins. The sizes of the peak in the range 250 – 260 nm has been used to estimate the concentration of nucleotides over the past 50 years.

As stated in *General Biochemistry*, "...[o]f the widely distributed protein amino acids, only phenylalanine, tyrosine and tryptophan exhibit extensive light absorption at wavelengths longer than 250 nm; this may be attributed to their aromatic nature. phenylalanine exhibits maximal absorption at about 260 nm, whereas tyrosine and tryptophan have their maxima at about 275 and 280 nm, respectively. If a protein contains one or more of these amino acids...it will absorb light in the region 260 to 280 nm and this property may be used to measure its concentration" (*General Biochemistry*, Fruton, J.S. and Simmonds, S. John Wiley and Sons, Inc.

1953; pg. 71). Further the reference also contains a figure of the absorption spectra of the 3 amino acids with their peaks being about 278 nm and as would be expected, there is no peak at or around 254 nm (see *General Biochemistry*, page 71). Phenylalanine's absorption coefficient is one-fifteenth that of tryptophan and therefore its peak at 260 nm is hardly visible.

Absorption peaks appearing near 250 - 260 nm is evidence for the presence of nucleotides and their heights have been used to estimate the concentrations of nucleotides. *General Biochemistry* states, "[t]his method involves measurement of the extent of light absorption at about 260 nm, where the spectra of the purine and pyrimidine rings of the nucleic acids show their maxima. Also see: Thorell, B., Cold Spring Harbor Symposia Quant. Biol. 1947, 12: 247 (*General Biochemistry*, Fruton, J.S. and Simmonds, S. John Wiley and Sons, Inc. 1953; pg. 185). Further, *Principles of Biochemistry* teaches, "[t]he presence of the conjugated ring systems of the purines and pyrimidines in nucleic acid results in marked absorption in the ultraviolet region of the spectrum, with absorption maxima near 260 nm. Since proteins have a much weaker absorption in this region, one-fiftieth to one-one hundredth as much, the spectral properties of the nucleic acids have been useful in locating and estimating these substances in cells and tissues...." (*Principles of Biochemistry*, White, A., Handler, P., and Smith, E., McGraw-Hill, 1959; pg. 170).

Therefore, one ordinarily skilled in the art would know that peptides and proteins containing aromatic amino acids will show a peak near 280 nm. Applicant asserts those familiar with the art would know that the SRFs could not be proteins or peptides simply by virtue of the fact that they do not absorb with a peak near 280 nm. The simple measurement, disclosed in the original specification, therefore indicates that they were not proteins or peptides.

In addition, according to the MPEP § 2173.05(i), "[t]he current view of the courts is that there is nothing inherently ambiguous or uncertain about a negative limitation". Further, "[a]ny negative limitation ... must have basis in the original disclosure", which Applicant asserts there is as specified in the statements *supra* (see MPEP § 2173.05(i)). Thus Applicant submits the limitation "said SRFs are not bactericidal proteins or peptides" is not new matter.

In light of the above remarks, Applicant respectfully requests reconsideration and withdrawal of the rejections to claims 1, 4-8 and 10-19 under 35 U.S.C. §112, first paragraph.

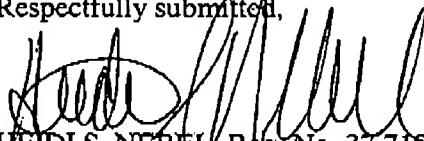
IV. Conclusion

In light of the above amendments and remarks, Applicant asserts that the claims as amended are in condition for allowance. Applicant respectfully requests reconsideration and withdrawal of the above rejections to claims 1, 4-8 and 10-19. If it is felt that it would aid in prosecution, the Examiner is invited to contact the undersigned at the number indicated to discuss any outstanding issues.

No other fees or extensions of time are believed to be due in connection with this amendment; however, consider this a request for any fees inadvertently omitted, and charge any additional fees to Deposit Account No. 26-0084.

Reconsideration and allowance is respectfully requested.

Respectfully submitted,



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